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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,449	02/07/2002	Lukas Novotny	176/60921 (2-11150-912)	9533

7590 03/29/2004

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EXAMINER	
STAHL, MICHAEL J	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/068,449	NOVOTNY ET AL.	
	Examiner	Art Unit	
	Mike Stahl	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-52* is/are rejected.

7)☒ Claim(s) *8-14,30,40,42 and 44* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Information Disclosure Statement

The references submitted March 22 2002, February 11 2003, and June 25 2003 have been considered. Initialed copies of form PTO-1449 are attached.

Claim Objections

Claims 8-13 are objected to because their preambles refer to "the lens", whereas the preambles of their respective parent claims refer to "the system".

Claim 14 is objected to because it lacks clarity. In line 3, "in" should be inserted after "partially".

Claim 30 is objected to because in line 3 it refers to "the optical layer", whereas parent claim 29 refers to "the optical element".

Claim 40 is objected to because it refers to "a method as set forth in claim 27" but claim 27 is a product claim. It appears that claim 40 should depend from claim 36.

Claim 42 is objected to because it depends from claim 43. It appears that claim 42 should depend from claim 41.

Claim 44 is objected to because it depends from itself. It appears that claim 44 should depend from claim 43.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-46, 48-50, and 52 are rejected under 35 U.S.C. 102(a) as being anticipated by Mamin et al. (US 6055220 A).

As to claims 1 and 4, Mamin discloses in figs. 2, 3 and 9 a system comprising an optical element (a hemispherical solid immersion lens **SIL** including a coating layer of silicon nitride), a structure **210** partially in and adjacent to a surface of the optical element, and a source of light (that provides beam **204**) with a mode profile providing an electric field having a vector component perpendicular to a surface of the optical element. The light source is positioned to propagate light through the optical element onto an object (a magneto-optical disk **12**). The structure **210** enhances the electric field of the light which optically interacts with the object (see the explanation associated with fig. 5B). As to claim 2, a guiding system **100** moves the optical element. As to claim 3, the system includes a focusing lens (reference **210** in fig. 2) to focus light from the source onto the optical element. As to claim 5, the optical element may be regarded as an optical waveguide at least in the sense that its refractive index exceeds that of the surrounding medium and it does guide light from the source to the disk. Regarding claims 6 and 7, the structure **210** is elongated, has a tip, and appears to protrude beyond the surface of the optical element. As to claim 8, the system includes a coating (a silicon nitride layer) which covers at least the sides of the structure **210**. As to claims 9 and 12, the optical element comprises a base **SIL** and an optical layer of silicon nitride connected to the base, and the structure **210** is positioned at least partially in an opening in the optical layer adjacent to its surface. Claims 10-11 are satisfied as described above with respect to claims 6-7. As to claim

13, at least a portion of the opening appears to have a conical shape.

The method of providing the Mamin system as described above satisfies claims 14-26. The lens in Mamin, comprising the solid immersion lens **SIL** and its silicon nitride layer as described above, meets the limitations of claims 27-35. The method of making the lens, as described in conjunction with figs. 10A-10F in Mamin, meets the limitations of claims 36-44. Claims 45, 46, and 48 are satisfied by the Mamin system in a manner parallel to claims 1, 2, and 6 respectively. The method of making and using the system as recited in claims 49, 50, and 52 is also satisfied parallel to claims 1, 2, and 6.

Claims 45, 47-49, and 51-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Garman (US 4955685 A).

As to claims 45 and 47, Garman discloses a system (fig. 3) comprising an optical element **69** (an elliptical reflector), a structure **60** (a doped fiber) positioned to interact with the optical element, and a source of light **68** (see col. 4 line 66 - col. 5 line 8) with a mode profile providing an electric field having a vector component perpendicular to a surface of the optical element. The optical element **69** focuses at least a portion of the light onto the structure **60**. The structure **60** enhances the electric field of the light which interacts with an adjacent object (e.g. an external fiber of the communication system), at least by virtue of the fact that its doping enables light amplification. As to claim 48, the structure **60** is elongated and has at least one tip. The method of making and operating the Garman system satisfies claims 49, 51, and 52 in parallel to claims 45, 47, and 48.

Conclusion

US 2003/0206513 is cited on the attached PTO-892 form as it is considered pertinent to applicant's disclosure (particularly figs. 1-4).

Any inquiry concerning this communication should be directed to Mike Stahl at (571) 272-2360. Official communications which are eligible for submission by facsimile and which pertain to this application may be faxed to (703) 872-9306. Inquiries of a general or clerical nature (e.g., a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at (703) 308-0956 or to the technical support staff supervisor at (703) 308-3072.

MJS

Michael J. Stahl
Patent Examiner
Art Unit 2874

March 9, 2004